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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,252	03/24/2004	Masanori Takeuchi	122.1588	4082

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
DHARIA, PRABODH M	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
07/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/807,252	TAKEUCHI ET AL.	
	Examiner	Art Unit	
	Prabodh M. Dharia	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-56* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03-24-2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

2. **Status:** Receipt is acknowledged of papers submitted on 03-24-2004 under new application, which have been placed of record in the file. Claims 1-56 are pending in this action.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 03-24-2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. PTO 1449 initialed and signed by examiner are attached.

Election/Restrictions

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-14 are drawn to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method with a gain control circuit compressing the number of gray scale levels of

an input signal and an error diffusion circuit receiving intermediate image signal and increasing the number of gray scale levels by simulating additional gray scale levels through error diffusion, classified in class 345, subclass 694 and 313 subclass 503 and 235, subclass 462.42.

II. Claims 15- 28 are drawn to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving an output image signal from sub gain control circuit and outputting first image signal through error diffusion process, classified in class 345, subclass 204, 600, subclass 173, 701, subclass 211.

III Claims 29-42 are drawn to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method by compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and generating output image signal through error diffusion process, classified in class 382, subclass 264, and 345, subclass 76.

IV Claims 43-56 are drawn to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a computational process compressing the number of gray scale levels of an input signal and an error diffusion applied to sub gain control circuit and generating first image signal through error diffusion process, classified in class 345, subclass 596, 345, subclass 600, and 345, subclass 163.

5. The inventions are distinct, each from other because:

Invention I relates to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and increasing the number of gray scale levels by simulating additional gray scale levels through error diffusion; however, it does not relate to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a gain control circuit or computational process compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving an output image signal from sub gain control circuit and outputting first image signal through error diffusion process; a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield

method by compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and generating output image signal through error diffusion process; and a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a computational process compressing the number of gray scale levels of an input signal and an error diffusion applied to sub gain control circuit and generating first image signal through error diffusion process.

Invention II relates relate to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving an output image signal from sub gain control circuit and outputting first image signal through error diffusion process; however, it does not relate to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method by compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and generating output image signal through error diffusion process; a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a computational process compressing the

number of gray scale levels of an input signal and an error diffusion applied to sub gain control circuit and generating first image signal through error diffusion process; and a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and increasing the number of gray scale levels by simulating additional gray scale levels through error diffusion.

Invention III relates to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method by compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and generating output image signal through error diffusion process; however, it does not relate to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a computational process compressing the number of gray scale levels of an input signal and an error diffusion applied to sub gain control circuit and generating first image signal through error diffusion process; a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and increasing the number of gray scale levels by simulating additional gray scale levels through error diffusion; and a display apparatus which

expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving an output image signal from sub gain control circuit and outputting first image signal through error diffusion process.

Invention IV relates to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a computational process compressing the number of gray scale levels of an input signal and an error diffusion applied to sub gain control circuit and generating first image signal through error diffusion process however, it does not relate to a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and increasing the number of gray scale levels by simulating additional gray scale levels through error diffusion; a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method has multiple path to generate multiple image signal of a image in motion using switching control from an input image signal and with a gain control circuit compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving an output image signal from sub gain control circuit and outputting first image signal

through error diffusion process; and a display apparatus which expresses luminance by varying light emission time length and displays gray scale by using a subfield method by compressing the number of gray scale levels of an input signal and an error diffusion circuit receiving intermediate image signal and generating output image signal through error diffusion process.

6. These above, mentioned reasons the inventions described and categorized by class /subclass above are distinct. Search required for each class and subclass is independent.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

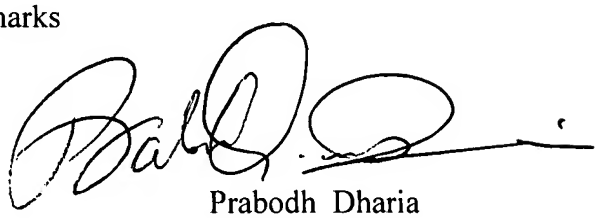
10. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231



Prabodh Dharia

Full Signatory Authority Program

AU2629

July 21, 2007